

What is claimed is:

1. A distribution network monitoring and control system for monitoring and controlling a CSS type distribution network system provided with CSWs, comprising:

monitoring and control means for taking in an information of said CSWs of said CSS type distribution network system and for outputting a control information for said CSWs thereof;

status grasping means for judging charging and outage state of said CSS type distribution network system according to said information on said CSWs taken by said monitoring and control means;

switch status take-in means for taking in status of said CSWs in a range to which power was so far transmitted through a feeder causing a fault, when said status grasping means judged that said fault was generated;

CSS type fault section judging means for judging a fault section according to a fault information of said CSWs taken in by said switch status take-in means;

fault section expanding means for receiving an information of said fault section from said CSS type fault section judging means, for expanding a fault

section to a load side, when status of said CSWs at said load side of said fault section cannot be taken in, and for notifying an expanded fault section to said CSS type fault section judging means;

said CSS type fault section judging means deciding said expanded fault section notified from said fault section expanding means as said fault section;

fault processing means for isolating said fault section decided by said CSS type fault section judging means from said CSS type distribution network system and for executing recovering operation to an outage section other than said fault section; and

CSS type recovering procedure preparation means for preparing a recovering operation procedure to said outage section other than said fault section on a assumption that said CSWs are to be controlled.

2. The distribution network monitoring and control system according to claim 1, further comprising:

self-line loop judging means for judging whether or not a self-line loop is present in said CSS type distribution network system and for treating said CSWs in said self-line loop route as non-remote controlled CSWs when there is said self-line loop;

wherein said fault section expanding means expands said fault section based on a judging result of said self-line loop judging means.

3. The distribution network monitoring and control system according to claim 1, further comprising:

other line loop judging means for judging whether or not a fault is generated in other line loop in said CSS type distribution network system before fault by receiving a trip notification of a feeder circuit breaker and system information before fault from said status grasping means;

wherein said CSS type fault section judging means judges that all sections are fault sections when said other line loop judging means judges that said fault is generated in said other line loop.

4. The distribution network monitoring and control system according to claim 1, further comprising:

fault factor judging means for judging fault factor for every fault information from said status grasping means;

wherein said CSS type fault section judging means judges said fault section for said fault factor judged.

by said fault factor judging means.

5. The distribution network monitoring and control system according to claim 1, further comprising:

intermittent fault judging means for judging whether or not said fault is an intermittent fault based on said fault information from said status grasping means within a certain time period;

wherein said CSS type fault section judging means judges that all sections are fault sections when said intermittent fault judging means judges that said fault is said intermittent fault within said certain time period.

6. A distribution network monitoring and control system for monitoring and controlling a mixed type distribution network system provided with VSWs and CSWs in mix, comprising:

monitoring and control means for taking in an information of said VSWs and said CSWs of said mixed type distribution network system and for outputting a control information for said VSWs and said CSWs thereof;

status grasping means for judging charging and outage state of said mixed type distribution network

system according to said information on said VSWs and said CSWs taken by said monitoring and control means;

switch status take-in means for taking in status of said VSWs and said CSWs in a range to which power was so far transmitted through a feeder causing a fault, when said status grasping means judged that said fault was generated;

fault processing system selecting means for selecting either a VSS type fault processing system or a CSS type fault processing system when a fault section judging request is received from said status grasping means;

VSS type fault section judging means for judging a fault section according to a fault information of said VSWs taken in by said switch status take-in means when said VSS type fault processing system is selected by said fault processing system selecting means;

CSS type fault section judging means for judging a fault section according to a fault information of said CSWs taken in by said switch status take-in means when said CSS type fault processing system is selected by said fault processing system selecting means;

fault processing means for isolating said fault section decided by a selected one of said VSS type fault section judging means and said CSS type fault section judging means from said mixed type

distribution network system and for executing recovering operation to an outage section other than said fault section;

VSS type recovering procedure preparation means for preparing a recovering operation procedure to said outage section other than said fault section on a assumption that said VSWs are to be controlled when said VSS type fault processing system is selected; and

CSS type recovering procedure preparation means for preparing a recovering operation procedure to said outage section other than said fault section on a assumption that said CSWs are to be controlled when said CSS type fault processing system is selected.

7. The distribution network monitoring and control system according to claim 6, wherein:

said fault processing system selecting means selects automatically either said VSS type fault processing system or said CSS type fault processing system when said fault section judging request is received from said status grasping means according to pre-set conditions.

8. The distribution network monitoring and control system according to claim 6, further comprising:

recovering procedure preparation system judging means for selecting a recovering procedure preparation system according to a type of one of said VSW and said CSW adjacent to said fault section;

wherein said VSS type recovering procedure preparation means prepares said recovering operation procedure when said VSS type fault processing system is selected by said recovering procedure preparation judging means; and

wherein said CSS type recovering procedure preparation means prepares said recovering operation when said CSS type fault processing system is selected by said recovering procedure preparation judging means.

9. The distribution network monitoring and control system according to claim 6 or claim 7, further comprising:

a fault processing management means for selecting one fault processing system by said fault processing system selecting means when said fault section judging request is received from said status grasping means and for selecting the other fault processing system when notified that said fault section can not judged by said fault processing system selected by said fault processing system selecting means;

wherein said VSS type fault section judging means

judges said fault section when said VSS type fault processing system is selected; and

wherein said CSS type fault section judging means judges said fault section when said CSS type fault processing system is selected.

10. A distribution network monitoring and control system for monitoring and controlling a mixed type distribution network system provided with VSWs and CSWs in mix, comprising:

monitoring and control means for taking in an information of said VSWs and said CSWs of said mixed type distribution network system and for outputting a control information for said VSWs and said CSWs thereof;

status grasping means for judging charging and outage state of said mixed type distribution network system according to said information on said VSWs and said CSWs taken by said monitoring and control means;

switch status take-in means for taking in status of said VSWs and said CSWs in a range to which power was so far transmitted through a feeder causing a fault, when said status grasping means judged that said fault was generated;

VSS type fault section judging means for judging a fault section according to a fault information of



said VSWs taken in by said switch status take-in means;

CSS type fault section judging means for judging a fault section according to a fault information of said CSWs taken in by said switch status take-in means;

mixed type distribution network system fault section comparing and judging means for judging a fault section by comparing results executed simultaneously by said VSS type fault section judging means and said CSS type fault section judging means;

fault processing means for isolating said fault section decided by said mixed type distribution network system fault section comparing and judging means from said mixed type distribution network system and for executing recovering operation to an outage section other than said fault section;

VSS type recovering procedure preparation means for preparing a recovering operation procedure to said outage section other than said fault section on a assumption that said VSWs are to be controlled; and

CSS type recovering procedure preparation means for preparing a recovering operation procedure to said outage section other than said proper fault section on a assumption that said CSWs are to be controlled.

11. The distribution network monitoring and control system according to claim 10, further comprising:

mixed type distribution network system fault section defining and judging means for judging whether or not a fault section is defined according to a fault section judging result by one of said VSS type fault section judging means and said CSS type fault section judging means which completed said fault section judgment earlier and for interrupting judgment by fault section judging means when said fault section is defined;

wherein said mixed type distribution network system fault section comparing and judging means judges said fault section when said fault section is not defined by said mixed type distribution network system fault section defining and judging means.